

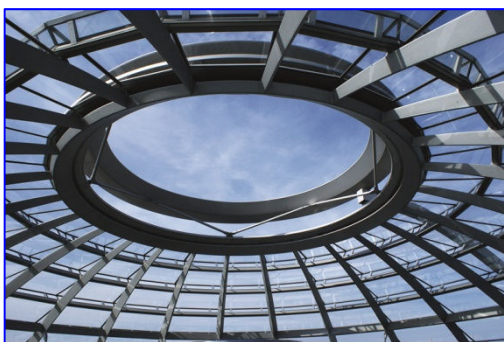
Environmental Product Declaration (EPD)

Short version



Declaration code: M-EPD-AZR-GB-111

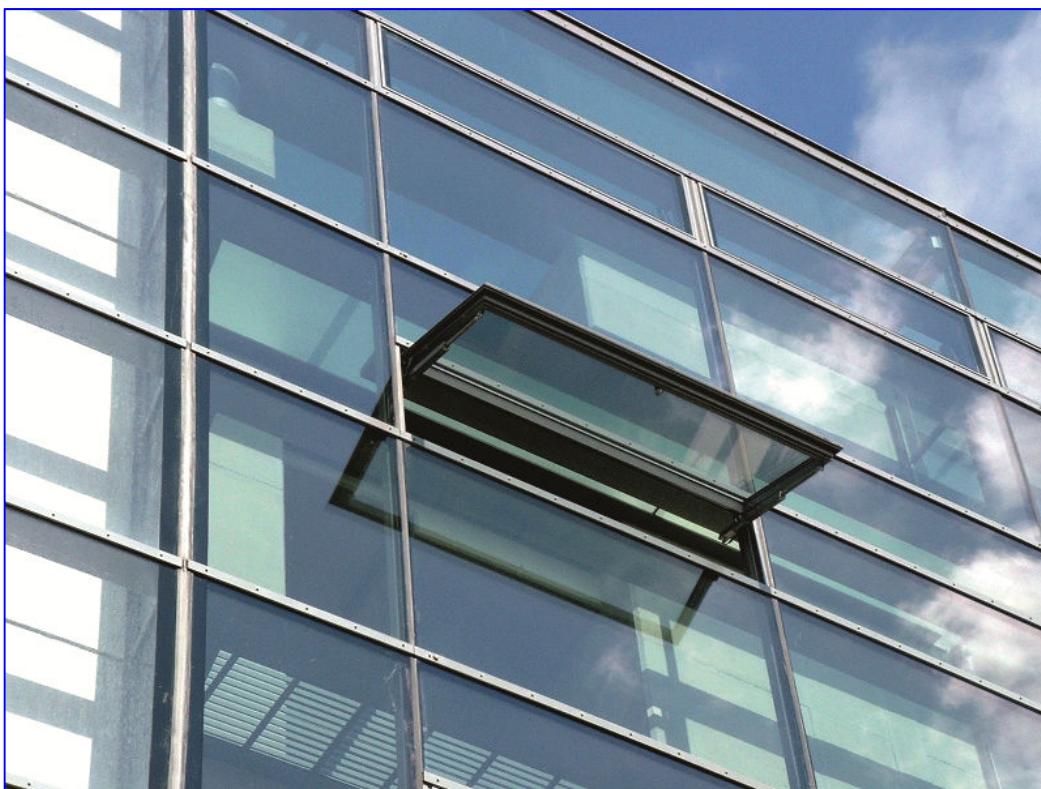
Note: This EPD is based on the model EPD Electrical drives and pneumatic cylinders.



Weber &
Rosenhäger
GmbH

Building components for smoke and heat control systems

Electrical drives and pneumatic cylinders for SHEV and ventilation systems



Basis:

DIN EN ISO 14025
EN15804
Model-EPD
Environmental
Product Declaration

date of issue:
18.12.2018

next Revision:
18.12.2023





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Environmental Product Declaration (EPD)

Short version



Declaration code: M-EPD-AZR-GB-111

Programme operator	ift Rosenheim GmbH Theodor-Gietl-Straße 7-9 83026 Rosenheim		
Practitioner of the LCA	LCEE Life Cycle Engineering Experts GmbH Berliner Allee 58 64295 Darmstadt		
Declaration holder	Weber & Rosenhäger GmbH Brönninghauser Straße 57 33729 Bielefeld		
Declaration code	M-EPD-AZR-GB-111		
Designation of the declared product	Electrical drives and pneumatic cylinders for SHEV and ventilation systems		
Scope	Smoke and heat exhaust ventilation systems, or their components, which, through their interaction, exhaust smoke and heat from buildings. Smoke and heat control systems. Ventilation systems for maintaining specific air change rates.		
Basis	This model EPD was prepared on the basis of EN ISO 14025:2011 and EN 15804:2012+A1:2013. In addition, the "Allgemeiner Leitfaden zur Erstellung von Typ II Umweltproduktdeklarationen" (General guideline for elaboration of Type III Environmental Product Declarations) applies. The Declaration is based on the PCR Documents "Bauteile für Anlagen zur Rauch- und Wärmefreihaltung" (Building components for smoke and heat control systems) PCR-RW-2.1:2018 and "PCR Teil A" (Part A) PCR-A-0.2:2018.		
Validity	Publication date:	Date of issue:	Next revision:
	18.12.2018	18.04.2019	18.12.2023
Validity	This verified model Environmental Product Declaration applies solely to the specified products and is valid for all members of the association window automation and smoke extraction e.V. (VFE). It has a validity of 5 years from the date of publication in accordance with DIN EN 15804.		
LCA basis	The LCA was prepared in accordance with EN ISO 14040 and DIN EN ISO 14044. The base data include both data collected the Weber & Rosenhäger GmbH production site and the generic data derived from the "GaBi 8" database. LCA calculations were based on the "cradle to gate with options" life cycle including all upstream processes (e.g. raw materials extraction, etc.).		
Notes on publication	The "Conditions and Guidance on the Use of ift Test Documents" apply. The declaration holder assumes full liability for the underlying data, certificates and verifications.		
			
Prof. Ulrich Sieberath Director of Institute	Patrick Wortner External Verifier		

Note: Use the extended version of the EPD for further information.

Short version

Results per W Electrical drive														
Environmental impacts	Unit	A1-A3	A4	A5	B2	B3	B4	B6	B7	C1	C2	C3	C4	D
Global warming potential	kg CO ₂ -equiv.	0.30	2.62E-03	4.83E-02	0.00	0.00	0.30	0.33	0.00	7.03E-04	7.43E-04	6.28E-02	1.16E-02	-0.29
Depletion potential of stratospheric ozone layer	kg R11-equiv.	1.71E-09	8.65E-16	8.91E-15	0.00	0.00	1.71E-09	1.44E-11	0.00	3.12E-14	2.45E-16	2.79E-12	2.5E-16	-6.85E-12
Acidification potential of soil and water	kg SO ₂ -equiv.	1.46E-03	1.1E-05	7.90E-06	0.00	0.00	1.46E-03	9.30E-04	0.00	2.01E-06	2.25E-06	1.79E-04	8.83E-07	-1.32E-03
Eutrophication potential	kg PO ₄ ³⁻ -equiv.	1.10E-04	2.75E-06	1.54E-06	0.00	0.00	1.10E-04	8.41E-05	0.00	1.82E-07	5.52E-07	1.62E-05	1.81E-07	-1.03E-04
Formation potential of tropospheric ozone	kg C ₂ H ₄ -equiv.	1.00E-04	-4.07E-06	5.55E-07	0.00	0.00	1.0E04	5.93E-05	0.00	1.28E-07	-6.38E-07	1.14E-05	8.82E-08	-8.66E-05
Depletion of abiotic resources (ADP elements)	kg Sb-equiv.	2.20E-04	2.07E-10	7.97E-10	0.00	0.00	2.20E-04	1.24E-07	0.00	2.69E-10	5.87E-11	2.40E-08	9.37E-11	-3.38E-04
Depletion of abiotic resources (ADP fossil fuels)	MJ	4.38	3.56E-02	1.13E-02	0.00	0.00	4.45	3.47	0.00	7.50E-3	1.01E-02	0.67	1.64E-03	-3.61
Use of resources	Unit	A1-A3	A4	A5	B2	B3	B4	B6	B7	C1	C2	C3	C4	D
Renewable primary energy as energy source	MJ	0.98	1.79E-03	2.06E-03	0.00	0.00	0.98	1.95	0.00	4.20E-03	5.08E-04	0.38	3.12E-04	-0.85
Renewable primary energy for material use	MJ	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total use of renewable primary energy	MJ	0.98	1.79E-03	2.06E-03	0.00	0.00	0.98	1.95	0.00	4.20E-03	5.08E-04	0.38	3.12E-04	-0.85
Non-renewable primary energy as energy source	MJ	4.40	3.57E-02	1.30E-02	0.00	0.00	4.40	5.71	0.00	1.23E-02	1.01E-02	1.10	1.79E-03	-4.18
Non-renewable primary energy for material use	MJ	0.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total use of non-renewable primary energy	MJ	4.54	3.57E-02	1.30E-02	0.00	0.00	4.40	5.71	0.00	1.23E-02	1.01E-02	1.10	1.79E-03	-4.18
Use of secondary materials	kg	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Renewable secondary fuels	MJ	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Non-renewable secondary fuels	MJ	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Use of fresh water resources	m ³	2.33	1.48E-04	1.42E-03	0.00	0.00	2.33	1.48	0.00	3.20E-03	4.2E-05	0.29	1.73E-04	-1.34
Waste categories and output material flows	Unit	A1-A3	A4	A5	B2	B3	B4	B6	B7	C1	C2	C3	C4	D
Disposed hazardous waste	kg	6.79E-07	0.00	0.00	0.00	0.00	6.79E-07	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Disposed non-hazardous waste	kg	11.60	1.29E-04	2.80E-03	0.00	0.00	11.60	1.40	0.00	3.03E-03	3.66E-05	0.27	2.32E-03	-6.57
Radioactive waste	kg	4.04E-04	4.87E-08	7.00E-07	0.00	0.00	4.04E-04	8.87E-04	0.00	1.92E-06	1.38E-08	1.71E-04	6.18E-08	-2.26E-04
Components for further use	kg	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Materials for recycling	kg	3.50E-02	0.00	0.00	0.00	0.00	3.50E-02	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Materials for energy recovery	kg	3.10E-03	0.00	0.00	0.00	0.00	3.10E.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Exported electrical energy	MJ	0.00	0.00	6.30E-02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-2.10E-02	0.00
Exported thermal energy	MJ	0.00	0.00	0.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-5.08E-02	0.00

Short version

Results per mm Pneumatical cylinder														
Environmental impacts	Unit	A1-A3	A4	A5	B2	B3	B4	B6	B7	C1	C2	C3	C4	D
Global warming potential	kg CO ₂ -equiv.	0.39	6.11E-03	5.29E-02	0.00	0.00	0.39	2.76E-03	0.00	1.06E-03	1.13E-03	6.16E-02	1.64E-02	-0.21
Depletion potential of stratospheric ozone layer	kg R11-equiv.	2.43E-09	2.02E-15	9.05E-15	0.00	0.00	2.43E-09	1.22E-07	0.00	4.71E-14	3.72E-16	2.74E-12	3.55E-16	-2.47E-12
Acidification potential of soil and water	kg SO ₂ -equiv.	1.43E-03	2.58E-05	8.29E-06	0.00	0.00	1.43E-03	7.88	0.00	3.03E-06	3.42E-06	1.76E-04	1.25E-06	-7.02E-04
Eutrophication potential	kg PO ₄ ³⁻ -equiv.	1.29E-04	6.42E-06	1.62E-06	0.00	0.00	1.29E-04	0.71	0.00	2.74E-07	8.38E-07	1.59E-05	2.57E-07	-5.18E-05
Formation potential of tropospheric ozone	kg C ₂ H ₄ -equiv.	1.01E-03	-9.51E-06	5.89E-07	0.00	0.00	9.64E-05	0.50	0.00	1.93E-07	-9.68E-07	1.12E-05	1.25E-07	-4.53E-05
Depletion of abiotic resources (ADP elements)	kg Sb-equiv.	1.68E-05	4.83E-10	8.47E-10	0.00	0.00	5.25E-05	1.05E-03	0.00	4.06E-10	8.9E-11	2.36E-08	1.33E-10	-2.49E-05
Depletion of abiotic resources (ADP fossil fuels)	MJ	5.38	8.32E-02	1.21E-02	0.00	0.00	5.95	2.94E-04	0.00	1.13E-02	1.53E-02	0.66	2.32E-03	-2.47
Use of resources	Unit	A1-A3	A4	A5	B2	B3	B4	B6	B7	C1	C2	C3	C4	D
Renewable primary energy as energy source	MJ	1.38	4.19E-03	2.23E-03	0.00	0.00	1.38	1.65E-04	0.00	6.34E-03	7.71E-04	0.37	4.42E-04	-0.77
Renewable primary energy for material use	MJ	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total use of renewable primary energy	MJ	1.38	4.19E-03	2.23E-03	0.00	0.00	1.38	1.65E-04	0.00	6.34E-03	7.71E-04	0.37	4.42E-04	-0.77
Non-renewable primary energy as energy source	MJ	5.36	8.35E-02	1.39E-02	0.00	0.00	5.36	4.84E-04	0.00	1.86E-02	1.54E-02	1.08	2.55E-03	-3.01
Non-renewable primary energy for material use	MJ	0.16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total use of non-renewable primary energy	MJ	5.52	8.35E-02	1.39E-02	0.00	0.00	5.36	1.25E-04	0.00	1.86E-02	1.54E-02	1.08	2.55E-03	-3.01
Use of secondary materials	kg	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Renewable secondary fuels	MJ	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Non-renewable secondary fuels	MJ	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Use of fresh water resources	m ³	2.57	3.46E-04	1.51E-03	0.00	0.00	2.57	4.33E-03	0.00	4.82E-03	6.37E-05	0.28	2.45E-04	-1.48
Waste categories and output material flows	Unit	A1-A3	A4	A5	B2	B3	B4	B6	B7	C1	C2	C3	C4	D
Disposed hazardous waste	kg	2.91E-05	0.00	0.00	0.00	0.00	2.91E-05	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Disposed non-hazardous waste	kg	51.70	1.91E-04	1.75E-04	0.00	0.00	51.70	1.19E-04	0.00	4.57E-03	5.55E-05	0.27	3.33E-03	-1.11
Radioactive waste	kg	2.03E-02	7.2E-08	4.72E-08	0.00	0.00	2.03E-02	7.52	0.00	2.89E-06	2.10E-08	0.000168	8.75E-08	-2.14E-04
Components for further use	kg	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Materials for recycling	kg	1.16E-02	0.00	0.00	0.00	0.00	1.16E-02	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Materials for energy recovery	kg	3.50E-03	0.00	0.00	0.00	0.00	3.50E-03	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Exported electrical energy	MJ	0.00	0.00	6.90E-02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-3.02E-02	0.00
Exported thermal energy	MJ	0.00	0.00	0.17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-7.30E-02	0.00

Imprint

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Notes

This EPD is mainly based on the work and findings of the Institut für Fenstertechnik e.V., Rosenheim (ift Rosenheim) and specifically on the ift-Richtlinie NA-01/3 Allgemeiner Leitfaden zur Erstellung von Typ III Umweltproduktdeklarationen. (Guideline NA-01/3 - Guidance on preparing Type III Environmental Product Declarations).

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Weber & Rosenhäger GmbH

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